

METHOD AND STRUCTURE TO CREATE MULTIPLE DEVICE WIDTHS IN FINFET TECHNOLOGY IN BOTH BULK AND SOI

Abstract

Disclosed is a structure and method for producing a fin-type field effect transistor (FinFET) that has a buried oxide layer over a substrate, at least one first fin structure and at least one second fin structure positioned on the buried oxide layer. First spacers are adjacent the first fin structure and second spacers are adjacent the second fin structure. The first spacers cover a larger portion of the first fin structure when compared to the portion of the second fin structure covered by the second spacers. Those fins that have larger spacers will receive a smaller area of semiconductor doping and those fins that have smaller spacers will receive a larger area of semiconductor doping. Therefore, there is a difference in doping between the first fins and the second fins that is caused by the differently sized spacers. The difference in doping between the first fins and the second fins changes an effective width of the second fins when compared to the first fins.